RUSH MEDICAL COLLEGE

CATALOGUE OF COURSES

August, 1971

Course Designations

Task Force Courses are listed by the letter designator of the Task Force and the course number.

Departmental Courses are designated by the Department or Section code numbers as the first two digits and the course number as the third digit.

CODE NUMBERS OF SECTIONS AND DEPARTMENTS

OFFICE OF BIOLOGICAL AND BEHAVIORAL SCIENCES AND SERVICES ---------- 01
- Department of Biochemistry ---------- 02
- Department of Biomedical Engineering ---------- 03
  - Section of Automation in Health Education ---------- 04
  - Section of Health Demography, Economics and Systems Analysis -------- 05
  - Section of Medical Engineering ---------- 06
  - Section of Physiology ---------- 07
  - Section of Scientific Computation ---------- 08
- Department of Immunology ---------- 09
- Department of Microbiology ---------- 10
- Department of Psychology and Sciences of Society ---------- 11
  - Section of Psychology ---------- 12
  - Section of Social Sciences ---------- 13

OFFICE OF MEDICAL SCIENCES AND SERVICES ---------- 20
- Department of Dermatology ---------- 21
- Department of Diagnostic Radiology ---------- 22
  - Section of Gastrointestinal Radiology ---------- 23
  - Section of General Radiology ---------- 24
  - Section of Genito-Urinary Radiology ---------- 25
  - Section of Neurologic Radiology ---------- 26
  - Section of Pediatric Radiology ---------- 27
  - Section of Thoracic Radiology ---------- 28
- Department of Geriatrics ---------- 29
  - Section of Gerontology ---------- 30
- Department of Internal Medicine ---------- 31
  - Section of Biostatistics and Experimental Design ---------- 32
  - Section of Cardio-Respiratory Diseases ---------- 33
  - Section of Endocrinology and Metabolism ---------- 34
  - Section of Gastroenterology ---------- 35
  - Section of Hematology ---------- 36
  - Section of Hepatology ---------- 37
  - Section of Infectious Diseases ---------- 38
  - Section of Oncology ---------- 39
  - Section of Pharmacology ---------- 40
  - Section of Pharmacy ---------- 41
  - Section of Renal Diseases and Nutrition ---------- 42
  - Section of Rheumatology ---------- 43
- Department of Neurological Sciences ---------- 44
  - Section of Neurobiology ---------- 45
- Department of Nuclear Medicine ---------- 46
- Department of Pediatrics ---------- 47
  - Section of Adolescent and Young Adult Medicine ---------- 48
  - Section of Human Genetics and Development ---------- 49
  - Section of Neonatology ---------- 50
  - Section of Pediatric Allergy ---------- 51
  - Section of Pediatric Ambulatory Services ---------- 52
  - Section of Pediatric Cardiology ---------- 53
- Department of Preventive Medicine ---------- 54
  - Section of Care Delivery ---------- 55
  - Section of Ecology and Epidemiology ---------- 56
  - Section of Environmental, Occupational and School Health ---------- 57
  - Section of Preventive Practices ---------- 58
- Department of Psychiatry ---------- 59
  - Section of Child Psychiatry ---------- 60
  - Section of Community Psychiatry ---------- 61

CODE NUMBERS OF SECTIONS AND DEPARTMENTS (Continued)

OFFICE OF SURGICAL SCIENCES AND SERVICES ---------- 70
Department of Anesthesiology ---------- 71
Department of Cardiovascular-Thoracic Surgery ---------- 72
Section of Cardiovascular Surgery ---------- 73
Section of Thoracic Surgery ---------- 74
Department of General Surgery ---------- 75
Section of Organ Transplantation ---------- 76
Section of Pediatric Surgery (joint with Pediatrics) ---------- 77
Department of Neurological Surgery ---------- 78
Department of Obstetrics and Gynecology ---------- 79
Section of Community Obstetrics and Family Planning ---------- 80
Section of Gynecologic Endocrinology ---------- 81
Section of Gynecologic Oncology ---------- 82
Section of Perinatal Biology ---------- 83
Section of Psychosomatic Obstetrics and Gynecology ---------- 84
Department of Ophthalmology ---------- 85
Department of Orthopedic Surgery ---------- 86
Department of Otolaryngology and Bronchoesophagology ---------- 87
Section of Communicative Disorders ---------- 88
Section of Dental and Oral Surgery ---------- 89
Department of Pathology ---------- 90
Department of Plastic and Reconstructive Surgery ---------- 91
Department of Therapeutic Radiology ---------- 92
Section of Medical Radiation Physics ---------- 93
Department of Urology ---------- 94
Section of Urologic Oncology ---------- 95

OFFICE OF STUDENT AND FACULTY AFFAIRS ---------- 98
RUSH-PRESBYTERIAN-ST. LUKE'S MEDICAL CENTER ---------- 99

COURSES OF STUDY

The Core courses of study for medical students are presented by interdepartmental "Task Forces" consisting of members drawn from the various departments of the College. From the time of entry it is the intent to have an interlocking program in scientific methodologies and experimental approaches and an introduction to patients and their problems. Opportunities and facilities for research in the biological and behavioral sciences, in clinical sciences and in environmental biology are available in the various departments of the College.

The Program importantly depends upon the interaction of a student and his PRINCIPAL ADVISOR whose primary responsibility is to help the student define his goals, become a person capable of independent and continuing study, and choose courses of study. The initial task of each Principal Advisor and his student is to identify the past achievements, the strengths, and the weaknesses of the student. This process of evaluation will be continuous through the educational program and will be the primary basis for modifications of the educational program pursued by a given student. The Principal Advisor Program is coordinated by the Office of Student and Faculty Affairs with the advice of the Faculty committees on Courses of Study and Student Affairs.

The educational program of Rush is regarded as a portion of a continuum which emerges from an arts, sciences, and humanities experience and continues into years of practice, study, teaching, and inquiry. It is designed with three Phases as diagrammed on page 3. Specific course listings follow.

PHASE I has three objectives. First, courses in Phase I will provide the fundamental concepts and vocabulary on which the clinical sciences are based. Second, courses will be presented which will permit the student to gain an understanding of the delivery of medical care, the interactions of society influencing health, the study of man's behavior and his ability to communicate. Third, the student will begin to develop professional concepts and clinical skills under the continuing tutelage of an individual CLINICAL TUTOR. Each student and his Clinical Tutor will enjoy this continuing professional relationship through Phase I and Phase II during which the attributes, attitudes, and abilities of a physician will be developed by the student. The informational content of the courses of Phase I is prerequisite to undertaking Phase II of the Rush Medical College Educational Program.

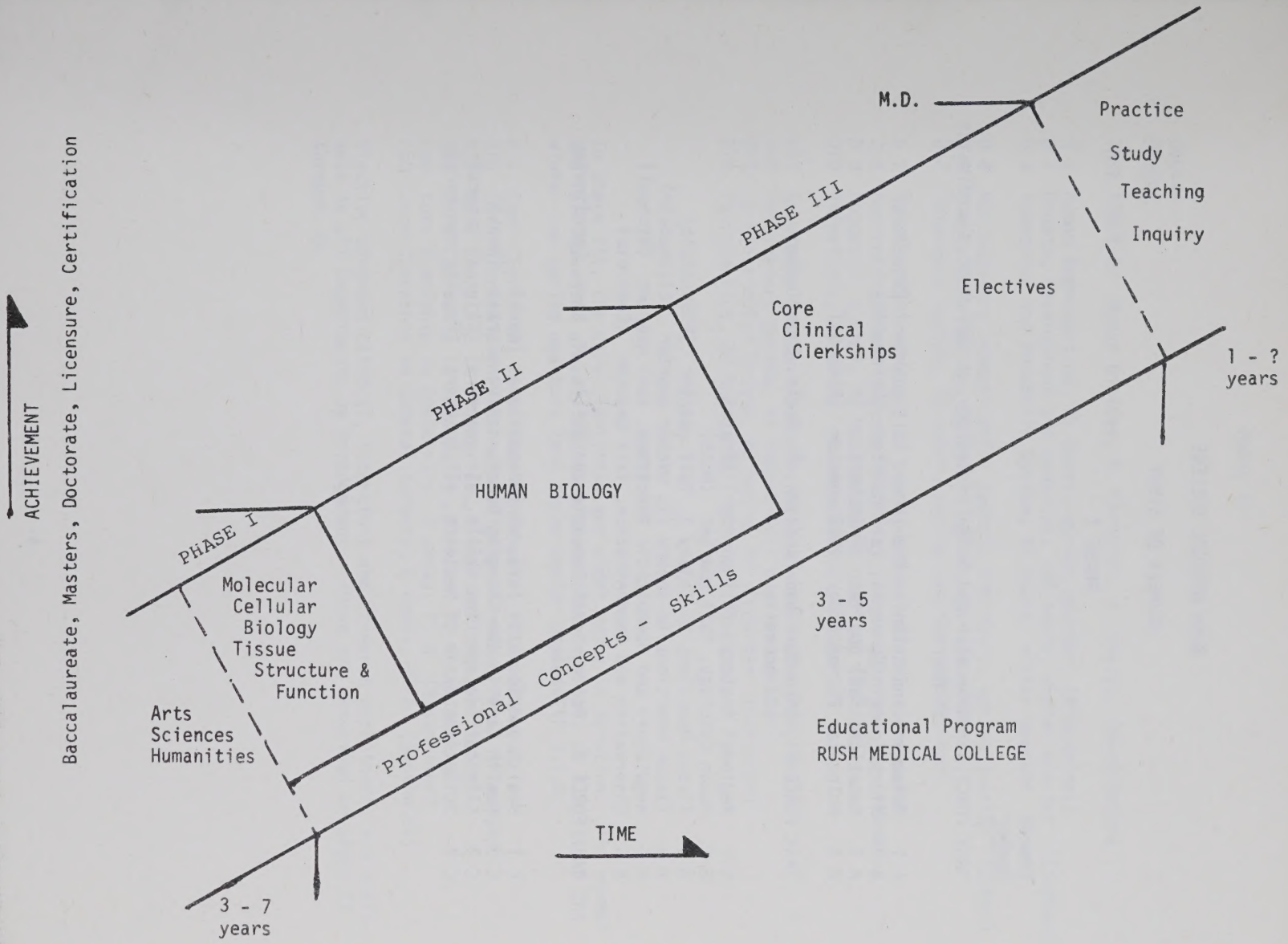
PHASE II integrates basic and clinical sciences to provide an understanding of man in health and disease through a series of courses concerning the organ systems of the body. The quarters of Phase II do not imply a necessary curricular sequence, and one or more quarters may be omitted with the material to be covered in independent study. The theme of the courses of study offered during Phase II is the provision of the basic information necessary to the function of all physicians in a context relevant to the continuing experience of each student with his Clinical Tutor throughout

Phase II, and by continual encounters with human disorders as a means of facilitating the student's acquisition of independent study techniques in the quest for answers to clinical questions. Phase II is divided into four instructional units, each comprising an academic quarter.

The Winter Quarter contains the Task Force courses on Reproduction and Maturation including Reproduction, Growth, Development and Behavior and a course concerning the Endocrine and Metabolic Systems. The Spring Quarter incorporates courses concerning the Skin and the Neurosensory-Communicative Systems. The Summer Quarter contains courses pertaining to the Locomotor, Gastrointestinal, and Hematopoietic Systems. Courses which deal with the Excretory, Respiratory and Cardio-Vascular Systems are included in the Fall Quarter of Phase II.

PHASE III contains Core Clinical Clerkships and Elective Periods. The initial experience in this phase will be a Core Clerkship for most students. The Core Clerkship has as its objective the development of the student's capability to elicit data from all sources pertaining to patients, to make meaningful diagnostic hypotheses and to carry out necessary tests of hypotheses. During this experience the practice of scientific medicine is to be developed. The subsequent program recommended for most students will consist of Core Clerkships in Medicine, Surgery, Pediatrics, Psychiatry, and Obstetrics-Gynecology. Tentative or firm career choices will importantly modify the duration and types of clerkships and elective experiences of Phase III. The courses of study presented in the elective portion of Phase III are designed to supplement the information contained in the Core portion of the Educational Program. The student and his Principal Advisor will devise an individual curriculum best adapted to his career goals. Unique educational experiences not listed in this portion of the Educational Program may be generated upon request of the student and his Principal Advisor. Details concerning the duration and times of availability of each course will be arranged with the individual course coordinators.

The Educational Program of Rush Medical College is designed with flexibility to permit a wide variety of career choices and to be compatible with a wide variety of educational experiences pursued prior to matriculation at Rush Medical College.


ACHIEVEMENT
Baccalaureate, Masters, Doctorate, Licensure, Certification
M.D.
Practice
Study
Teaching
Inquiry
PHASE III
Electives
Core
Clinical
Clerkships
1 - ?
years
PHASE II
HUMAN BIOLOGY
PHASE I
Molecular
Cellular
Biology
Tissue
Structure &
Function
Arts
Sciences
Humanities
Professional Concepts - Skills
3 - 5
years
Educational Program
RUSH MEDICAL COLLEGE
TIME
3 - 7
years

RUSH MEDICAL COLLEGE

COURSES OF STUDY

PHASE I

Course
Number

TASK FORCE A: Molecular and Cellular Biology, H. Sky-Peck, Coordinator
95 hours

A 1 Molecular and Cellular Chemistry, fall quarter (Sky-Peck)
A 2 Microbiologic Concepts, fall quarter (Deinhardt)
A 3 Genetics, fall quarter (Frischer)
A 4 Molecular Pharmacology, fall quarter (Klawans)

TASK FORCE B: Structure and Function, R. Seale, Coordinator
137 hours

B 1 Regional Anatomy, fall quarter (Seale)
B 2 Human Cytology, fall quarter (Hass)
B 3 Tissue Reactions to Injury I, fall quarter (Eisenstein)
B 4 Tissue Reactions to Injury II, winter quarter (Eisenstein)
B 5 Regulatory and Homeostatic Functions, fall quarter (Michael)
B 6 Observation and Communication, fall quarter (Cheifetz)

TASK FORCE C: Professional Concepts and Skills, R. Kark, Coordinator
77 hours

C 1 Health and Society, fall, winter quarters (Kark)
C 2 Health Care in the Changing Order, spring quarter (Kark)
C 3 Clinical Concepts and Skills, all quarters (Clinical tutors)
C 4 Scientific Basis of Medicine, all quarters (Faculty seminars)

PHASE II

Course
Number

TASK FORCE D: Human Biology, R. Carleton, A. Doolas, Coordinators

D 1 Human Reproduction, 75 hours, winter quarter, (Misenhimer)
D 2 Growth, Development and Behavior, 130 hours, winter quarter (Ebenhoeh)
D 3 Endocrine and Metabolic System, 46 hours, winter quarter (Ryan)

D 4 Neurosensory Communicative System, 206 hours, spring quarter (Cohen)
D 5 Immunologic System, 15 hours, spring quarter (Gewurz)
D 6 Cutaneous System, 40 hours, spring quarter (Malkinson)

D 7 Hematopoietic System, 77 hours, summer quarter (Bachmann)
D 8 Gastrointestinal System, 68 hours, summer quarter (S. Economou)
D 9 Locomotor System, 99 hours, summer quarter (DeWald)
D10 Infections, 15 hours, summer quarter (S. Levin)

D11 Excretory System, 72 hours, fall quarter (Mattenheimer)
D12 Respiratory System, 77 hours, fall quarter (Faber)
D13 Cardiovascular System, 85 hours, fall quarter (Carleton)
D14 Therapeutics, 30 hours, fall quarter (Carson)

PHASE III

In phase III, the core clerkships are eight weeks in duration. The summer and fall quarters are divided into three sexter periods (P 1,2,3) and the winter and spring quarters into three sexter periods (P 4,5,6).

E 1 Core Clerkship, Task Force E, 8 weeks, P1,4 (Holmes)
310 Core Clerkship in Internal Medicine, 8 weeks, P1-6 (Flanagan)
470 Core Clerkship in Pediatrics, 8 weeks, P1-6 (Christian)
590 Core Clerkship in Psychiatry, 8 weeks, P1-6 (Ginsberg)
790 Core Clerkship in Obstetrics, 8 weeks, P1-6 (Misenhimer)
750 Core Clerkship in General Surgery, 8 weeks, P1-6 (Southwick)

Elective advanced clinical, laboratory and research experiences are available in all Departments by arrangement. These are described on pages 12 through 38.

COURSE DESCRIPTIONS

PHASE I

TASK FORCE A: *Molecular and Cellular Biology*

A1 Molecular and Cellular Chemistry: prereq. none, 54 hours, Fall Qtr., SkyPeck and Staff. This course will encompass the essentials of cellular physiology, microbiology and biochemistry necessary to bring each entering student to a common level of understanding of the fundamentals of biological function.

A2 Microbiological Concepts: prereq. none, 15 hours, Fall Qtr., Deinhardt, Northrop and Staff. The distinguishing features which characterize replication and pathogenicity of each category of microbiological organism will be taught to provide a foundation for subsequent consideration of the epidemiology, disease producing capabilities, and disease characteristics produced by each class of infectious and invasive agent.

A3 Genetics: prereq. none, 6 hours, Fall Qtr., Frischer. This course will supplement the previously acquired information pertaining to information transmittal at the molecular level presented in the course on Molecular and Cellular Chemistry, and will present the basic precepts of genetic and nongenetic transmission of normal and abnormal human traits.

A4 Molecular Pharmacology: prereq. A1 or its equivalent (may be taken concurrently), 20 hours, Fall Qtr., Klawans, Ecanow, Sky-Peck and Carson. Molecular Pharmacology will deal with interventions into subcellular, cellular and systems function by molecules introduced therapeutically. Present concepts of the mode of action of therapeutic agents will be considered, including membrane transport mechanisms, molecular receptor sites and agonism of competitive molecules.

TASK FORCE B: *Structure and Function*

B1 Regional Anatomy: prereq. none, 15 hours, Fall Qtr., Seale, Buenger and Staff. This course will utilize models, dissection materials, and radiographic techniques to achieve its goal of enabling the student to identify topographical landmarks and to list the major anatomic components of each region of the body.

B2 Human Cytology: prereq. none, 20 hours, Fall Qtr., Hass and Staff. This is an introductory course with 12 hours of lecture in which light and electron microscopy of a few cell types will be briefly surveyed. The microscopic structure of several tissues and organs will be discussed. An introduction to the microscopic study of normal cells, tissues and organs will be presented in 8 hours of laboratory exercises.

B3 Tissue Reactions to Injury I: prereq. B2, 15 hours, Fall Qtr., Eisenstein and Staff. This course consist of 8 hours of introductory lectures concerned with general reactions of cells, tissues and organs to some types of injury. The microscopic study of reactions to injury will involve 7 hours of laboratory exercise. Details of the pathologic reactions in the several organ systems will be discussed in connection with Task Force assignments.

B4 Tissue Reactions to Injury II: prereq. B2 and B3, 11 hours, Winter Qtr., Eisenstein and Staff. This course will use lectures and laboratory experiences to introduce concepts of neoplasia and the pathologic sequelae of malnutrition.

B5 Regulating and Homeostatic Functions: prereq. none, 32 hours, Fall Qtr., Michael, Gottlieb, Dow, Reeves and Staff. The objective of this course is to familiarize the student with the idea of systems and their behavior and control. This idea will be developed in the context of normal physiologic and biochemical homeostasis characteristic of the mammalian organism. The concept of faulty control as the genesis of disease will be developed.

B6 Observation and Communication: prereq. none, 44 hours, Fall Qtr., Lashof, Cheifetz, M. Levine and Kempton. The objective of this course is for the student to acquire skill and understanding in the conduct of interviews with diverse types of individuals in both structured and unstructured formats. The social, familial and individual modifiers of the ability to communicate meaningfully in verbal or nonverbal modes will be presented by utilizing field placements, seminars and lectures.

TASK FORCE C: *Professional Concepts and Skills*

C1 Health and Society: prereq. none, 22 hours, Fall and Winter Qtr., Kark and Staff. An introductory series of lectures on concepts of health and disease as aspects of human biology. The effects of intervention on the natural history of disease will be described, illustrated in part by lectures on nutrition in man.

C2 Health Care in the Changing Order: prereq. none, 11 hours, Spring Qtr., Kramer, Warden and Staff. This course will serve as an introduction to the student into the socially important problem of design, organization and management of systems for the delivery of health care.

C3 Clinical Concepts and Skills: prereq. none, 22 hours each academic quarter of Phase I and Phase II, Kark and Staff. Tutorially guided experiences in the examination of patients which seek to develop those attributes, attitudes and skills which are the foundation of the clinician's life.

C4 Scientific Basis of Medicine: prereq. none, 22 hours each academic quarter throughout the first year after matriculation, Kark and Staff. Student participation in interdisciplinary discussions on, and demonstrations of, the scientific basis of the phenomena of disease (signs, symptoms and syndromes) in man. This course includes some lectures on pathophysiology.

PHASE II

TASK FORCE D: *Reproduction and Maturation*

D1 Human Reproduction: prereq. none, 75 hours, Winter Qtr., Misenhimer and Staff. The physical, developmental and psychological facets of human reproduction and of the organs of human reproduction will be presented in an integrated manner to provide the student with a requisite core of information and of clinical abilities.

D2 Growth, Development and Behavior: prereq. none, 130 hours, Winter Qtr., Ebenhoeh, Grossman, Cheifetz and Staff. Growth, development and behavior is the basic science by which man and his interactions with society may be understood. This important course will view normal and abnormal man through the human life cycle.

D3 Endocrine and Metabolic Systems: prereq. none, 46 hours, Winter Qtr., Schwartz, Ryan and Staff. The subject of intermediary metabolism will be introduced as a point of departure for consideration of the basic and applied facets of clinical disorders of hormone generating organs, expressed in terms of disruption of normal homeostatic control systems.

D4 Neurosensory Communicative Systems (Neural Sciences): prereq. none, 180 hours, Spring Qtr., Cohen, Davis, Hartmann, Michael and Staff. This course, presented in sub-units, will emphasize normal neural structure and function as a point of departure for consideration of each category of disorders of the nervous system.

(Ear, Nose, and Throat): prereq. none, 15 hours, Friedberg and Staff. The anatomy, physiologic roles and disorders of this bodily region will be taught. The objective is for each student to develop the skills at examination and problem statement needed for an understanding of the requisite information.

(Eye): prereq. none, 11 hours, W. Hughes and Staff. This didactic course, supplemented by ophthalmologic examination and skill development, will provide each student with the fundamental core of information pertaining to vision and of the disorders which threaten man with the loss of visual communication.

D5 Immunologic System: prereq. none, 15 hours, Spring Qtr., Gewurz. Each student will learn the fundamental concepts of immune reactions of their role in protection of the human species and in the production of human disorders.

D6 Cutaneous System: prereq. none, 40 hours, Spring Qtr., Malkinson and Pearson. The development, roles and disorders of the integument and its appendages will be presented both as a primary informational unit and also as a model in which the student's powers of observation, measurement and problem statement can be developed.

D7 Hematopoietic System: prereq. none, 77 hours, Summer Qtr., Trobaugh and Staff. The biochemical and physiologic regulatory parameters of the hematopoietic and coagulation systems will be presented in conjunction with disorders of the cellular and humoral components of the system.

D8 Gastrointestinal System: prereq. none, 68 hours, Summer Qtr., S. Economou and Staff. The regional components of the gastrointestinal system will be considered with the basic physiological, biochemical, nutritional and bodily maintenance role of the system serving as a departure point for consideration of the pathogenesis, prevention and correction of human disorders of the system.

D9 Locomotor System: prereq. none, 99 hours, Summer Qtr., DeWald, Hark and Staff. The anatomy, physiology, biochemistry and pathology of the musculoskeletal components of the body will be taught, integrated with the generation of demonstrable skills in describing the system and its disorders.

D10 Infections: prereq. none, 15 hours, Summer Qtr., S. Levin and Staff. The identifying characteristics, the multi-system disorders produced by and the categorical therapies of infectious disease will be taught utilizing didactic, clinical and laboratory based information.

DI1 Excretory System: prereq. none, 72 hours, Fall Qtr., Mattenheimer, Rennie, McKiel and Staff. This course will provide the necessary information to permit students to gather and synthesize information pertaining to normal and abnormal function of the component parts of the excretory system.

DI2 Respiratory System: prereq. none, 77 hours, Fall Qtr., Faber, R. Hughes and Staff. This course will build upon the structure and function of the lung toward its disorders recognizing the crucial role of the respiratory system as one of the major filters between man and his environment.

DI3 Cardiovascular System: prereq. none, 85 hours, Fall Qtr., Carleton, Julian, Bucheleres and Staff. The regulatory roles of the circulatory system and of the anatomic counterparts will be presented to permit integration with and recognition of the pathogenesis, epidemiology and possible modes of prevention of disorders which presently lead to over half of human deaths.

DI4 Clinical Therapeutics: prereq. A4 or its equivalent, 30 hours, Fall Qtr., Carson, Perlia, Gdalman and Staff. This course will present in a systematic way the therapeutic modalities available to the physician for the modification of human disorders. It will consist of a section on Basic Infection Therapeutics, reviewing basic and clinical points on antibiotic therapies; a section of Clinical Cancer Therapeutics, reviewing basic and clinical aspects of cancer therapy; a section of Practical Clinical Therapeutics, reviewing general concepts of prescribing various drugs and combinations with the concomitant problems and a section of Public Health Therapeutics, reviewing the involvement of the physician with care of the general population and its problems.

PHASE III

TASK FORCE E: *Interdepartmental Clinical Programs*

E1 Core Clerkship: 8 weeks, P 1, Holmes and Staff. This introductory clinical experience is designed to integrate the information transmitted during Phases I and II of the Rush Medical College Educational Program, and to provide each student with the ability to gather information pertaining to human disease from multiple sources, to synthesize this information, and to formulate and test pertinent diagnostic hypotheses.

E2 Continuous Care Medicine: T. Schwartz, Christian and Staff. This experience will focus on primary care and will provide a preceptorship in the continuum of care through prevention, early detection, office therapy and hospital therapy.

E3 Family Practice Clerkship: The hospitals affiliated with the Rush-Presbyterian-St. Luke's Medical Center provide a wide variety of clinical settings in which the breadth and depth of a student's experience can be augmented. These clerkships will be arranged in conjunction with departmental chairmen.

DEPARTMENTAL PROGRAMS

The Elective Courses of Study presented in the following pages are representative of the many educational opportunities available at Rush Medical College. Other subject areas may be explored in courses designed by the student, his Principal Advisor, and individual instructors.

BIOCHEMISTRY (02)

021 Biochemistry of Disease: prereq. Phase I and II, P 5, Sky-Peck Mattenheimer, Kachmar and Rafelson. The alterations of metabolic pathways in various organs and tissue compartments of humans will be discussed in relation to organic, metabolic, and genetic pathology. Patients will be used to illustrate biochemical principals. Topics will be selected and discussed in depth, with emphasis on current work and concepts. The facilities of the Clinical Chemistry laboratory will be utilized to illustrate biochemical changes and their significance.

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022 Biochemistry of Cancer: Timing and duration of course by arrangement. Sky-Peck. This course will deal with the nature of cancer as a derangement of metabolism. Topics to be discussed include: (a) metabolic differences between the cancer cell and the normal cell; (b) carcinogenesis; (c) control mechanisms; (d) pharmacology and chemotherapeutics; (e) viruses; (f) immunology.

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023 Protein Chemistry: Timing and duration of course by arrangement. Bezkorovainy. A series of lectures and demonstrations of the physical and chemical nature of proteins. Subjects to be covered include: Ionic properties of amino acids and proteins; isolation of proteins; composition and amino acid sequences in proteins, estimation of proteins and quantitation of amino acid side-chains in intact proteins; chemical modification of proteins; shape and size of protein molecules; secondary structure of proteins; complete structure of proteins; interaction of proteins with radiation; immunochemistry; special topics.

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024 Clinical Enzymology: Timing and duration of course by arrangement. Mattenheimer and Staff. This seminar course will present theoretical and practical material on the role of enzyme activity in normal biochemical control.

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025 Platelet Physiology and Biochemistry: Timing and duration of course by arrangement. Rafelson and Booyse. This unique cell provides a model for study of human coagulation and molecular roles in cellular function.

BIOMEDICAL ENGINEERING (03-08)

031 Introductory Mathematics for Biomedical Applications: Timing and duration of course by arrangement. Gottlieb. This seminar and practicum course will provide a background for further study of topics ranging from quantitative control theory to the uses of analog and digital computers in biomedicine.

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032 Biostatistics: Timing and duration of course by arrangement. Passovoy. This lecture and practical course will permit a student to deal with practical problems in experimental design, in data collection, and in analysis of data pertaining to research projects.

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033 Introductory Control Theory: Timing and duration of course by arrangement. Dow and Staff. This seminar course will expand upon the concepts of control system theory presented during Phase I of the Core curriculum.

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034 Information Processing in the Visual System: Timing and duration of course by arrangement. Michael and Levett. A seminar course integrating neuroanatomy, neurophysiology, psychology and information theory to develop a schema for considering normal and pathologic function of the human visual system.

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035 Computer Based Diagnosis: prereq. 031, timing and duration of course by arrangement. Gottlieb. The development and application of computer programming for information collation, storage and retrieval, with a goal of generating diagnostic probabilities will be considered in a seminar and practical educational experience.

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036 Social Systems Dynamics: Timing and duration of course by arrangement. Dow and Levett. Simulation of the behavior of social systems. Specific examples will be considered, with emphasis on the health care system of the United States.

IMMUNOLOGY (09)

091 Immunology: Timing and duration of course by arrangement. Gewurz. A seminar course in the role of the immune response in the prevention and in the mediation of disease, with special emphasis on transplantation and "auto-immune" processes.

MICROBIOLOGY (10)

101 Bacteriology: prereq. A2, 8 wks., 2 hrs. per wk., Winter Qtr. Landau and Schuytema. The structural, metabolic and genetic properties of pathogenic bacteria and normal flora will be discussed as relevant to health and infection in lectures, seminars and demonstrations.

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102 Virology: prereq. A2, 8 wks., 2 hrs. per wk., Spring Qtr. Deinhardt and Staff. This course will consider viruses as a complex of macromolecules that can cause cell death or that can modify cells to be carriers of an infection. The role of interferon, immunity, drugs and attenuated viruses in altering cell-virus interactions will be discussed in lectures and discussions.

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103 Oncogenic Viruses: prereq. 102 or equivalent, 8 wks., 2 hrs. per wk., Summer Qtr. Deinhardt and Staff. The recent advances in the study of virus-induced tumors in mammals and evidence for a similar role of viruses in man will be discussed in this seminar course.

PSYCHOLOGY AND SCIENCES OF SOCIETY (11-13)

111 Personality: Theory and Research: prereq. none, 12 wks., 3 hrs. per wk., Spring. Cheifetz and Hartings. A critical review of the major theories of personality, their historical development and empirical evidence supporting these theories. Methodologic problems in personality research.

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112 Behavioral Statistics: prereq. none, 12 wks., 3 hrs. per wk., Fall. Leavitt. Statistical concepts will include, but not be limited to measures of central tendency, variability, normal distribution, correlation, sampling, and significance. Notions dealing with analysis of practical medical problems and hypothesis testing will be introduced, and skills for drawing inferences from empirical data will be emphasized. Examples from behavioral and medical sciences will illustrate valid and erroneous uses of statistics. 6-10 students.

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113 Methods in Behavioral Research: prereq. 112 or 032 or consent of instructor, 12 wks., 3 hrs. per wk., Spring. Leavitt and Benner. Basic experimental designs, useful in both the behavioral and medical sciences, will be surveyed with emphasis on their application to practical problems. Attention will be given to the assumptions and rationale for employing appropriate statistical methods and experimental designs, as they relate to planning and carrying out individual research. An overview of sociological research techniques will also be provided. Opportunity will be provided for running small experiments, analyzing the data and reporting the results in journal style. 6-10 students.

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114 Principles and Process of Behavior Change: prereq. consent of instructor, 12 wks., 3 hrs. per wk., Alt. Spring. Hartings. An examination and critical review of the various psychotherapeutic and behavior modification approaches to behavioral problems. Emphasis is upon examination of the processes occurring in various approaches, using group experiences and video-tape records in the classroom.

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115 Behavioral Genetics: prereq. consent of instructor, 8 wks., 3 hrs. per wk., Spring. Garron. The principles of transmission genetics and chromosome structure will be reviewed. Salient methodological procedures will be studied. Genetic findings in relation to temperament, intelligence, medical and mental disorder will be discussed. The course will emphasize genetics as a tool in the understanding of human behavior, using inherited traits of medical significance as examples.

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116 Sociology of Health and Illness: prereq. consent of instructor, 12 wks., 3 hrs. per wk., Spring. McGurrin and Staff. This course focuses on demographic methods as applied to problems of public health, epidemiology, preventive medicine, etc. Emphasis will be placed upon methods for studying populations from the standpoint of the occurrence, distribution and impact of disease upon them. Relevant variables such as family, race, education, vocation, geographic location, and religion will be examined.

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117 Mental Deficiencies and Learning Disabilities: prereq. consent of instructor, 12 wks., 3 hrs. per wk., Spring. Brocken, Shanley and Staff. Clarification of the wide variety of mental deficiencies and learning disabilities: incidence, methods of classification, etiology and developmental phenomena associated with deficiencies in intellectual functioning. Multiplicity of causes reviewed in the context of the behavioral manifestations of the pre-school and school age child. Emphasis on emotional, social, and educational adjustment. Consideration of particular difficulties in medical treatment during illness and hospitalization.

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118 Neuropsychology: prereq. consent of instructor, 12 wks., 2 hrs. per wk., Fall. Garron. This course will cover cognitive and affective sequelae of disorders of the central nervous system. The course emphasizes the clinical psychologist's contribution to the diagnosis and management of patients suffering from acute and chronic neurological disorders and organic psychopathologies. Seminar and case demonstrations. 6-10 students.

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119 Social and Psychological Aspects of Inner City Problems: prereq. consent of instructor, 12 wks., 2 hrs. per wk., Fall. Lindner and Benner. A small group seminar dealing in a systematic fashion with the historical development and the mechanisms which maintain the stereotyped problems of the inner city culture. Particular emphasis will be placed on examination of social welfare legislation and on the dissemination of services by the traditional institutions of the community, e.g., welfare, schools, and policing bodies. Problems to be examined will include: high unemployment, poor school achievement, overcrowding, and the lessened probability of upward mobility, studying how these factors contribute to such social-psychological problems as high school drop-out rate, delinquency, organized crime, drug addiction, and cultural alienation. 12 students.

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120 Psychological Aspects of Pediatric Hospitalization: prereq. 470, 12 wks., 3 hrs. per wk., Fall. Brocken and Christian. This course focuses on the pediatric patient, infancy through adolescence, under the stress of hospitalization. Description of normal and abnormal coping behaviors, and therapeutic means of dealing with them. Observation of pediatric patients in specially conducted rounds. Demonstration of a variety of therapeutic measures, e.g., puppet theatre for pre-operative cases, play therapy, adolescent "rap" groups, etc. 6 students.

DERMATOLOGY (21)

211 Histopathology of Skin Disease: P 1-6, 8 wks. Malkinson, Pearson, and Staff. This course stresses general principals of cutaneous pathology, and integrates this with patient presentations. Student instruction in all of the basic techniques of tissue preparation and examination for electron microscopy will also be offered. 4 students.

DIAGNOSTIC RADIOLOGY (22-28)

221 Diagnostic Radiology: P 1-6, 8wks. Buenger and Staff. This elective experience will provide rotation in each of the department's subsections. Basic radiographic principles will be demonstrated. The role of diagnostic radiology as a clinical setting for patient care and medical and surgical specialty consultation will be emphasized. The student will be in a position to evaluate the training program in diagnostic radiology, should he envision such a career. 4 students.

INTERNAL MEDICINE (31-43)

310 Core Clerkship in Medicine: P 1-6, 8 wks. T. Schwartz and Staff. During the basic Medicine Clerkship, students will progressively increase their degrees of responsibility from levels of diagnostic synthesis through supervised real responsibility for individual patients and their therapy.

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311 Advanced Internal Medicine: P 1-6, 8 wks. T. Schwartz and Staff. This experience in internal medicine and related disciplines will provide an augmented depth and degree of responsibility for patient care and may serve as a training-educational phase to precede the post-doctoral residency experience. 6 students.

CARDIO-RESPIRATORY DISEASES (33)

331 Cardiovascular Medicine: prereq. 310, P 1-6. Carleton and Staff. This experience, based on intensive patient study, will provide the student with an in depth understanding and capability in the areas of cardiovascular diagnosis, diagnostic cardiovascular techniques, and appropriate therapeutic programs. 6 students.

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332 Electrocardiography: prereq. none, 15 hrs., P 4. Heller and Staff. The theoretical and practical aspects of electrocardiography will be presented in conjoint didactic and practical sessions.

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333 Respiratory Diseases: prereq. 310, P 1-6, 8 wks. R. Hughes, Faber and Staff. This experience will provide an intensive patient study and didactic opportunity for recognition and management of acute and chronic disease of the respiratory tract, including detailed presentation of the principles and practice of respiratory intensive care and the pertinent equipment involved in this care. 4 students.

ENDOCRINOLOGY AND METABOLISM (34)

341 Endocrinology: P 1-6, 8 wks. T. Schwartz, Ryan and Staff. This experience provides an opportunity for in depth study of patients and related research problems concerning all segments of the endocrine system. 4 students.

GASTROENTEROLOGY (35)

351 Gastroenterology: P 1-6, 8 wks. Hardison and Staff. Students will be participating members of the section. As such, under direction of the staff, they will examine, diagnose, treat and follow patients seen by the section. Students will assist in diagnostic tests and endoscopy. 2 students.

HEMATOLOGY (36)

361 Coagulation: P 1-6, 8 wks. Bachmann and Staff. In depth study of the hemostatic mechanisms and of factors predisposing to thrombosis will enable the student to understand the multiple causes resulting in disturbances of hemostatic homeostasis. 2 students.

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362 Erythrocyte Physiology and Function: P 1-6, 8 wks. Trobaugh and Staff. This elective course will introduce a student to a systematic consideration of red cell function and of disorders of erythropoiesis, using available sophisticated measurement techniques. 4 students.

HEPATOLOGY (37)

371 Hepatology: P 1-6, 8 wks. Holmes and Staff. This intensive clinical elective will provide in depth knowledge pertaining to normal hepatic function and to disorders of the liver and biliary tract. 2 students.

INFECTIOUS DISEASES (38)

381 Infectious Diseases: P 1-6, 8 wks. S. Levin and Staff. This course will emphasize clinical diagnostic infectious diseases, the use and abuse of antimicrobial therapy and epidemiology of infectious diseases. 4 students.

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382 Pediatric Infectious Diseases: prereq. 470, P 1-6, 8 wks. Kallick and Staff. An elective course in Pediatric Infectious Diseases will be offered to include daily Infectious Diseases teaching rounds at Rush-Presbyterian-St. Luke's Medical Center, weekly teaching rounds at Cook County Hospital and Municipal Contagious Disease Hospital, laboratory experience in simple microbiologic procedures and specialized microbiological work in the hemotropic infections of animals and man. Lecture course and slide demonstrations and seminars on various phases of Infectious Diseases will be offered at least twice weekly in conjunction with the Section of Infectious Diseases in Medicine. 4 students.

ONCOLOGY (39)

391 Clinical Oncology: prereq. 310, P 1-6, 8 wks. Perlia, Hendrickson, S. Economou and Staff. This interdisciplinary clinical experience will consider the pathogenesis, recognition and multi-faceted therapy of human neoplasia. 6 students.

RENAL DISEASES (42)

421 Clinical Nephrology: prereq. 310, P 1-6, 8 wks. Kark and Staff. The students will have a chance to learn to recognize and manage disorders of the kidneys, the urinary tract and their vascular appendages. A holistic approach to medical care is provided by the staff, including prevention and early detection of disease, as well as use of extraordinary methods of care such as dialysis and transplantation. 4 students.

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422 Laboratory Nephrology: P 1-6, 8 wks. Mattenheimer and Staff. This elective is aimed at the study of function and structure of the kidneys and their appendages in health and diseases. The student has an opportunity for intensive study in one of these special areas of activity. Renal histology and ultrastructure; immunology; renal and conduit function; acid-base balance; nutrition; microdissection and micropuncture; ultramicrochemistry. 2 students.

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423 Clinical and Preventive Nutrition: P 1-6, 8 wks. Rennie, Oyama and Staff. The impact of the environment and disease on the nutrition of man will be covered. This elective will provide an opportunity for diagnosis and management of nutritional disorders in hospitalized patients. Field studies on population groups under investigation will be available from time to time. 2 students.

NEUROLOGICAL SCIENCES (44-45)

441 Neurology: P 1-6, 8 wks. Cohen and Staff. This elective is highly recommended for individuals contemplating primary health care delivery careers, and will enhance the diagnostic ability of the student in the area of neurologic disorders. Rehabilitation and specific therapeutic programs will be emphasized. 6 students.

NEUROBIOLOGY (45)

451 Neurophysiology of Homeostasis and Control in Man: 12 wks., 3 hrs. per wk., Winter, Spring and Summer Qtrs. Michael. A seminar and laboratory course concerning a detailed quantitative approach to human neuro-physiology viewed from a control system approach. 8 students.

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452 Neurotransmitters: Timing and duration of course by arrangement. W. Harrison. A seminar course on recent advances in neurotransmitters and agents which modify neural information processing.

NUCLEAR MEDICINE (46)

461 Nuclear Medicine: P 1-6, 8 wks. Fordham and Staff. This course will expose the student to all facets of the disciplines of nuclear medicine, including performance of radionuclide scanning of organ systems for diagnostic and research purposes. 2 students.

PEDIATRICS (47-53)

470 Core Clerkship in Pediatrics: P 1-6, 8 wks. Christian and Staff. The principles and practice of health care delivery between the ages of birth and adolescence, which constitute an important segment of the health care delivery system, will be learned by direct care of patients.

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471 Advanced Pediatrics: prereq. 470, P 1-6, 8 wks. Christian and Staff. This experience in Pediatrics and related disciplines will provide an augmented depth and degree of responsibility and may serve as a preparatory training-educational phase to precede the post-doctoral residency experience. 2-4 students.

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481 Adolescent Medicine: prereq. 470, P 1-6, 4 wks. C.H. Jones and Staff. Experience in Adolescent Medicine and related disciplines. This will provide an augmented depth and degree of responsibility and may serve as a preparatory training-educational phase to precede the post-doctoral residency experience. 2-4 students.

NEONATOLOGY (50)

501 Introduction to Newborn Medicine: prereq. 470, P 1-6, 4 wks. Brazie and Staff. To provide an introduction to the care of normal newborn infant and mother, with emphasis on normal sequence of events in birth-recovery period and adaptation of baby and mother during the post-partum period. One or two-to-one student-faculty contact; clinical and seminar sessions centered around specific patients assigned to student. 1-2 students.

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502 Newborn Medicine: prereq. 501 , P 1-6, 4 or 8 wks. Brazie and Staff. This course will allow student to develop expertise in care of normal newborn, recognition of deviations from normal, and evaluation and treatment of newborn disease. 1 student.

PEDIATRIC ALLERGY (51)

511 Pediatric Allergy: prereq. 470 or 310, P 1-6, 8 wks. Hyde and Staff. An extensive didactic and practical approach to the problems of allergy in the young will be presented with an emphasis on the management of allergic eczema and bronchial asthma. 2-4 students.

PEDIATRIC AMBULATORY SERVICES (52)

521 Ambulatory Pediatrics: prereq. none, P 1-6, 2-16 wks. Kallick. This course will offer laboratory sessions dealing with office microbiology, weekly and bi-weekly seminars, weekly lectures, clinical interviewing and diagnosis and management of outpatients in the Pediatric Outpatient Department. 1-4 students.

PEDIATRIC CARDIOLOGY (53)

531 Pediatric Cardiology: prereq. 470, P 1-6, 4-16 wks. Bucheleres and Staff. This course will provide a student with comprehensive insight into the recognition and management of heart disease in the young with important ramifications into cardiac and cardiovascular embryology and teratogenesis. Clinical and laboratory experience and a specially assigned investigative project. 2 students.

PREVENTIVE MEDICINE (54-58)

541 Comprehensive Health Care: prereq. 310, P 1-6, 8 wks. Lashof, Levine, Elam and Staff. This clinical elective will provide the student with an opportunity to participate in a system designed to deliver comprehensive health care to a defined population. 1-2 students.

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542 Health Care Planning and Administration: prereq. none, P 1-6, 8 wks. N. Kramer, M. Levine and Staff. A field placement designed to acquaint the student with the magnitude of the health care delivery problem and involve the student in the planning of a health care system. 1-2 students.

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543 Occupational Medicine: prereq. 310, P 1-6, 8 wks., Post and Staff. This experience will combine a didactic and practical approach to problems of health maintenance and of environmental hazards in diverse industrial settings. 2 students.

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544 Research Studies in Health Care Delivery: prereq. none, P 1-6, 8-16 wks. Lashof, Pomerantz and Staff. Student will have an opportunity to undertake directed research in a problem in health care delivery such as health evaluation programs, use of paramedical personnel, medical audit in ambulatory care, emergency room care, etc. 1-2 students.

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545 Field Experience in Epidemiology: prereq. none, P 1-6, 8-16 wks. Schoenberger, Eckenfels. The student will have an opportunity to collect and analyze data obtained in epidemiologic studies of cardiovascular disease with special emphasis on hypertension. Projects selected will enable the student to become familiar with field epidemiologic techniques and tools, including questionnaire design and interview. 1-2 students.

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546 Seminar in Medical Care and Preventive Practices: prereq. none, P 4 and 5, 12 wks., 2 hrs. per wk. Lashof and Staff. Seminar discussions on various aspects of community and preventive medicine, including problems in health care delivery, organization and financing. Students will be given assigned reading in the above topics and will be expected to actively participate in the seminars. 5-15 students.

PSYCHIATRY (59-61)

590 Core Clerkship in Psychiatry: P 1-6, 8 wks. Nielson, Ebenhoeh and Staff. The normal emotional state of man, the recognition and therapy of the usual emotional disorders, and effect of stress on the development of abnormal behavior in the presence or absence of concomitant somatic disease will be taught through graded intensive clinical experience. Concepts of systems of care are presented in an integrated manner.

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591 Theories of Psychotherapy: Timing and duration of course by arrangement. Ebenhoeh. A seminar and practical course concerning the available modes of psychotherapeutic intervention.

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592 Adult Psychiatry: prereq. 590, P 1-6, 8 wks. Ginsberg and Staff. The objectives of an elective clerkship in psychiatry will be to increase the students' knowledge of the various psychiatric therapies and their indications as well as providing him an opportunity to improve his skill in doing therapy. This will include drug therapy, individual psychotherapy, family therapy, and group therapy. Emphasis will be placed on crisis management and brief therapy in a setting providing continuity of care including home visits, community clinics, hospital clinics, partial hospitalization, and full-time hospitalization. 6 students.

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593 Psychosomatic Medicine: prereq. 590, P 1-6, 8 wks. Nielson and Staff. The aims of this period of study are to develop an understanding of certain relationships existing between internal and external stresses and the development of physical symptomatology and to develop some capacity for therapeutic intervention. Adults and children hospitalized on medical, surgical, obstetrics and gynecological, and pediatric services exhibiting illnesses primarily psychologic in etiology, or in whom psychological stresses limit optimum management will be studied in supervised diagnostic evaluation and continuing management. The role of the milieu--home, community, and hospital--will be emphasized. Special problem areas will be utilized also, such as the dialysis patient, the patient undergoing organ transplant, the patient with a malignancy, and those undergoing intensive care. The clerkship is planned for an experience in all areas with emphasis placed on certain aspects of the study depending upon the students' interests and needs. 3 students.

CHILD PSYCHIATRY (60)

601 Child Psychiatry: prereq. 590, P 1-6, 8 wks. Koenig and Staff. The important variations of behavioral abnormalities in the young will be emphasized with a group therapeutic approach in the setting of a Children's Day Hospital.

COMMUNITY PSYCHIATRY (6I)

611 Community Psychiatry: prereq. 590, P 1-6, 8 wks. Markovich and Staff. This clerkship will afford the student an opportunity to experience first hand the delivery of mental health services to a target population. Through assignment to a community clinic and through seminars and didactic exercises, theory and practicum of current concepts of community psychiatry will be taught. The student with the treatment team will make home visits, gain direct experience in diagnostic and short-term treatment modalities, learn to work with the patient care team, and will follow the patient through all sectors of the patient care system. Certain areas of experience in this clerkship are dependent upon acceptance of the student by the representatives of the community. 3 students.

Surgical Sciences and Services

ANESTHESIOLOGY (7I)

710 Clerkship in Anesthesia: prereq. Phases I and II, P 1-6, 8 wks. Sadove and Staff. This course will include evaluation of patients prior to surgery and the development of judgment in choosing the best elective anesthetic technique. Students will gain experience with surgical anesthesia and monitoring. This course will give those intending to enter the surgical field an appreciation of the interaction of surgery and anesthesia. Laboratory work and lectures will be part of the course. 3 students.

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711 Pain Relief and Regional Anesthesia: prereq. Phases I and II, P 1-6, 2-4 wks. Sadove, Thomason and Yelin. The student will be introduced to the problems associated with intractable pain and learn the techniques available to ameliorate suffering. He will also participate in operating room regional nerve block procedures. 1-2 students.

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712 Acute Care: prereq. 750 or 710, P 1-6, 2-4 wks. Sadove, Morch and Murphy. The students will participate in acute postoperative care and gain experience in emergency resuscitative procedures. 1-2 students.

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713 Therapeutics: Surgical and Anesthetic: prereq. Phase I and II, P 1-6, 2-4 wks. Sadove, Thomason and Murphy. This course will emphasize surgical pharmacology. The anesthetic agents will be included. The course will also encompass the important field of analgesia and sedation. Intra-venous and supportive therapy will form another study. Molecular aspects of drug action will be explained. 1-2 students.

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714 Clinical Studies: prereq. 710 or 750, P 1-6, 16 wks. Sadove, Murphy and Thomason. This course is basically a research project. The advanced student will take on the critical study of one or more events in the area of a surgical operation and anesthesia. The number of students will be by arrangement.

CARDIOVASCULAR THORACIC SURGERY (72-74)

721 Cardiovascular and Thoracic Surgery: P 1-6, 8 wks. Julian, Dye, Faber and Staff. This intensive clinical experience will provide the student with a knowledge of the routine and elaborate diagnostic and therapeutic surgical approaches to disorders of the heart, lung and vascular system. 4 students.

GENERAL SURGERY (75-77)

750 Core Clerkship in General Surgery: P 1-6, 8 wks. Southwick and Staff. Experiences during the Clerkship in Surgery will include the gathering of information pertaining to diagnosis, the basic principles of surgery as a therapeutic intervention, and the graded acquisition of surgical skills.

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751 Surgical Anatomy: P 1-6, 4-16 wks., 6 hrs. per wk. Seale and Staff. This course will provide detailed dissection experience on a general or regional basis for the student contemplating a surgical career.

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752 Surgical Technique: P 2,3,4 and 5. Paul, Doolas and Staff. The course will be conducted in the large animal laboratory from 1:00 to 5:00 p.m. on Monday for 16 weeks. The objective of the course will be to acquaint the surgical student with scrubbing technique, operating room etiquette, gowning, draping, instrument handling, and a basic introduction to fundamental techniques in the various fields of surgery. These would include gastrointestinal anastomoses, venous and arterial cutdowns, orthopedic surgical principles, thoracic surgical principles, and the ethics of animal research. Post-operative follow up on the animals is expected. 9 students.

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753 Surgical Oncology: prereq. 750, P 1-6, 8 wks. Southwick, Economou and Hendrickson. This course will provide a concentrated experience in the surgical diagnosis and management of patients with tumor problems. The student will become an integral part of the surgical team involved with the care of such patients and will share the responsibility with the House Staff for the total care of such patients. Correlation of the surgical pathologic physiology of such patients will be stressed, including examination of gross and microscopic tissue. Attendance at the Tumor Clinic, Tumor Conference, and Head and Neck Tumor Conference are requisite for completion of this course. 2 students.

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754 Emergency Room Surgery: prereq. 750, P 1-6, 4-8 wks. Paul and Caldwell. This course is designed to give the student an opportunity to develop skills in management of Emergency Room pathology (such as debridement and closure of wounds, treatment of shock, etc.) In addition, there will be an opportunity to develop knowledge and acquire skill in emergency resuscitation technics while dealing with the unconscious patient, treating patients with an internal hemorrhage, cardiac arrest, etc. The student will not be involved, however, with patients coming to the examining room for elective general care.

The hospital follow-up of all patients admitted through the Emergency Room will be a requisite to the successful completion of this course. 2 students.

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755 Intensive Therapy Unit: prereq. 750, P 1-6, 8 wks. Goldin, and Roseman. The student will be assigned to the Intensive Therapy Unit to observe and participate in postoperative and intensive care of seriously ill surgical patients, while involved in all of the activities of I.T. Several patients will be assigned to the student, so that he will be responsible for their total care. During this period, he will be instructed in methods of resuscitation, inhalation therapy and the monitoring of acutely ill patients by mechanical devices.

In addition, there will be seminars on the fundamentals of respiratory, cardiac and electrolyte physiology which would complement the knowledge gained during the daily care of patients.

The student will be taught to perform basic chemical blood gas analyses to correlate their indication and use in clinical surgery.

2 students.

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756 General Surgical Preceptorship: prereq. 750, P 1-6, 8 wks. Southwick and Staff. The student will work with one of the surgeons on a full time basis in his office, the hospital, and the operating room. Acceptance in this course will be made following a conference with the Department Chairman.

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757 Quantitative Medicine: prereq. consent of instructor, 12 wks. Apter. Experimental, theoretical, and medical physiology will be developed only in so far as it can be supported by reliable quantitative data. The aim is to help the student correlate structure, function, and clinical applications from reliable data and models, and to be able to select reliable data from the voluminous current literature. The systems to be covered include epidemics, preventive medicine, circulation, respiration, hepatic, renal, muscle action and nervous action. Instruction will be assisted with digital and analog computers already programmed to demonstrate system behavior.

NEUROLOGICAL SURGERY (78)

781 Clinical Neurosurgery: prereq. D4, P 1-6, 8 wks. Whisler and Staff. This clinical clerkship will expand upon and demonstrate practical application of the core of knowledge presented in the course on the Neurosurgery Communication System. The emphasis will be upon diagnosis and the pathophysiological correlation of disease of the nervous system. The practical application of neurosurgical management and diagnosis as well as the treatment of neurosurgical emergencies will be considered in detail. 2 students.

OBSTETRICS AND GYNECOLOGY (79-84)

790 Core Obstetrics and Gynecology Clerkship: P 1-6, 8 wks. Wilbanks and Staff. The clerkship is designed to reinforce the core of information presented in the course on Human Reproduction while the student acquires the skills of examination of the reproductive organs, recognition of major disorders of this system and the normal processes and physiologic components of human gestation. This 8-week period of time will serve as the basic experience necessary for all physicians who are treating female patients. For selected students, upon recommendation of their Advisor and the OB/GYN staff, an alternative 2-week intensive clinical experience combined with only the didactic portion (conference-seminars) of the remaining 6 weeks of the course will be offered.

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791 Office Gynecology: prereq. D1, P 1,3,4 and 5, 3 days per wk., 3 hrs. per day. Wilbanks and Staff. This course is designed to give practical clinical experience in common problems encountered in the treatment of women in office gynecology. Emphasis is placed on interview technics, the use of teaching aids, ancillary personnel, simple laboratory technics and diagnostic and treatment methods. Included will be problems of sex education, premarital counseling and family planning. 4 students.

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792 Surgical Gynecology: prereq. D1 and 791, P 1,3,4 and 5, 4 hrs. per day, 2 days per wk. Orban and Wilbanks. This course will offer practical experience in operative gynecology, including preoperative diagnosis, operative technics and postoperative care. Seminars are included to discuss basic principles of disease processes which may be surgically treated. 2 students.

COMMUNITY OBSTETRICS AND FAMILY PLANNING (80)

801 Family Planning and Community Medicine I: prereq. DI, P 1,3,4 and 5, 3 hrs. per wk. Archie. Basic concepts and technics involved in office family planning and in understanding broader problems of health care for females are offered to those interested in community medicine, family practice, etc. Practical experience is offered in contraceptive technics. 2 students.

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802 Family Planning and Community Medicine II: prereq. 801, P 1,3,4 and 5. Archie. Conceptual problems of delivery of health care to females in all segments of the population is offered to students so interested. Facilities of the Mile Square Health Center will be available for observation of this type of health care program. To be offered one-half to fulltime. 2 students.

GYNECOLOGIC ENDOCRINOLOGY (81)

811 Gynecologic Endocrinology I: prereq. DI, P 1,3,4 and 5, 3 hrs. per day, 2 days per wk. Reeves and Truchly. This course offers basic practical experience in clinical problems of gynecologic endocrinology and infertility. Seminars correlate clinical problems seen with basic endocrine metabolism and physiology. Suggested for students interested in medicine, pediatrics or family practice. 2 students.

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812 Gynecologic Endocrinology II: prereq. 811, P 1,3,4 and 5. Reeves. The student has the opportunity to pursue clinical and/or basic gynecologic endocrinology in depth. Special programs will be developed for each student. 2 students.

GYNECOLOGIC ONCOLOGY (82)

821 Gynecologic Oncology I: prereq. DI, P 1,3,4 and 5, 3 hrs., one day per wk. Orban and Wilbanks. This course offers the student opportunity to study the theoretical and practical aspects of diagnosing and managing women with gynecologic malignancies. Special

821 (con't.)

emphasis is placed on diagnosis and treatment of early cervical lesions. This elective is especially recommended for students interested in medical or surgical oncology and radiation therapy. 2 students.

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822 Gynecologic Oncology II: prereq. 821, P 1,3,4 and 5. Orban and Wilbanks. Provides an opportunity for in depth study of basic or clinical oncology. Projects are selected with individual faculty members. To be offered one-half or full time. 1 student.

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823 Gynecologic Pathology: prereq. D1, P 1,3,4 and 5, 2 hrs. one day per wk. Wilbanks. This course offers opportunity for the clinically oriented review of obstetric and gynecologic histopathology. Suggested for students interested in general pathology. 2 students.

PERINATAL BIOLOGY (83)

831 Perinatal Biology I: prereq. D1 and 790, P 1,3,4 and 5. Misenhimer. This elective offers additional practical experience in managing the pregnant patient and her infant during the antepartum, intrapartum and postpartum periods, with emphasis on high risk obstetric patients. The course is designed for students interested in family practice which will include obstetrics and pediatrics as well as students who wish to pursue in depth studies of a specific aspect of perinatal biology. Time during this elective will be apportioned between the Ob-Gyn offices, antepartum and postpartum wards, birthrooms and the newborn nursery. To be offered full time. 4 students.

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832 Perinatal Biology II: prereq. 831, P 1,3,4 and 5 by special arrangement with faculty member. Misenhimer and Staff. The student will have the opportunity to pursue an in depth study of a specific subject with an individual member of the faculty, utilizing the clinical and laboratory facilities of the department. Time and number of students to be arranged on an individual basis.

PSYCHOSOMATIC OBSTETRICS-GYNECOLOGY (84)

841 Psychosomatic Obstetrics-Gynecology I : prereq. PI, P1,3,4 and 5, 3 hrs. per day, 2 days per wk. Wolff. This course offers the opportunity for students planning careers in family medicine, medicine, psychiatry, surgery, etc., to learn simple interview technics related to better understanding and treatment of common problems related to the care of women. Seminars, video tapes and individual and group patient interview technics will be utilized to cover the subject. 2 students.

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842 Psychosomatic Obstetrics-Gynecology II: prereq. 841,P 1,3,4 and 5. Wolff. For the student interested in psychiatry, this course offers the opportunity to study clinical or basic problems related to women in depth with an individual faculty member. Offered one-half or full time. 2 students.

OPHTHALMOLOGY (85)

851 Ophthalmologic Examination: W. Hughes and Staff. This elective may be begun during Phase II, but will be continuously available throughout the academic year. Five half-days for one week. This highly recommended introductory experience in the Eye Clinic is designed to accept one student at a time for intensive introduction to the examination techniques and primary clinical disorders of the visual pathways.

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852 Clinical Ophthalmology: P 1-6, 4-8 wks. W. Hughes and Staff. This intensive clinical experience in ophthalmology will permit the student to accept graded responsibilities in the diagnosis and medical or surgical management of disorders of the visual apparatus. The students will work with residents and staff in the Eye Clinic, the hospital, and operating room. This course is designed for those who might be considering Ophthalmology as a specialty. 1 student.

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853 Research in Ophthalmology: W. Hughes and Staff. Available by arrangement. The student will either work on a departmental project or short-term individual project, either clinically oriented or in association with another basic science department. Offered for 3 months, full time.

ORTHOPEDIC SURGERY (86)

861 Fractures and Trauma: P 1-6, 8 wks., DeWald and Staff. This clinical elective course will provide the student with experience in the management of bodily injuries related to acute trauma, including practical experience in the management of bone fractures. 4-6 students.

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862 Pediatric Orthopedics: P 1-6, 8 wks., Lambert and Staff. This clinical elective will provide the student with the informational background and practical experience in the restorative management of congenital and acquired skeletal abnormalities in the newborn child or adolescent. 4-6 students.

OTOLARYNGOLOGY (87)

871 Otolaryngology: prereq. 750, P 1-6, 4-8 wks. Friedberg, Conner and Staff. This clinical elective will provide the student with experience in the office, hospital and operating room in the detection and management of patients with diseases of the head, neck, ear, nose and throat. 2 students.

PATHOLOGY (90)

901 Autopsy Pathology: prereq. B1, B2, B3, B4, Winter and Spring Qtrs., 4 hrs. each wk. Dainauskas, Miller and Staff. This seminar course consists of selected case studies in depth, with emphasis on correlation of signs and symptoms with the pathogenesis and morphologic characteristics of disease. It will continue through Phase II and Phase III of the academic program. 2-6 students.

Electron Microscopy: prereq. BI, B2, B3, B4. Eisenstein and Staff. This course will provide a student with theoretical and practical knowledge in the use of the electron microscope as a clinical diagnostic and investigative tool. This involves laboratory instruction in electron microscopy. The duration of the course will depend on the continued interest of the student and the time available to the student. Very brief exposure to this program is not recommended. 2 students.

Experimental Neoplasia: prereq. BI, B2, B3, B4, Phase II; 4 hrs. per wk. Coogan and Staff. This course will give students an opportunity to engage in on-going research concerned with metabolic factors elementary to experimental chemical induction of tumors in animals. This course is a combination of seminar and actual laboratory experience. 2 students.

Pathogenesis of Arteriosclerosis: prereq. BI, B2, B3, B4, Phase II; 4 hrs. per wk. Hass and Staff. This course is a combination of seminar and laboratory experience focused on research concerned with the relations between human arteriosclerosis and current investigation of relevant animal model systems. 2 students.

Diagnostic Surgical Pathology: prereq. BI, B2, B3, B4; P 4 and 5, 8 wks. Ayer and Staff. This course involves practical experience for the student in the means by which diagnoses are made in the Surgical Pathology Laboratory. It involves a correlation of clinical data with the gross and microscopic anatomical findings. 2 students.

SURGERY (9I)

Plastic Surgery: P 1-6, 4-8 wks. Curtin and Staff. Patient management will be the format for education in the principles of wound care and reconstructive surgery. 2 students.

THERAPEUTIC RADIOLOGY (92)

921 Basic Radiobiology: prereq. AI, BI, B3, B4; P 1,3,4 and 5; 4 wks. Hendrickson, Saxena, Millburn and Mehta. The basic mechanisms of action of ionizing radiation at the cellular and sub-cellular level will be presented with a radiotherapeutic and a chemotherapeutic approach to cell proliferation, kinetics and to human neoplasia. This material will be illustrated and applied in clinical settings. 4 students.

UROLOGY (94-95)

941 Urology: prereq. DII; P 4 and 5; 8 wks. McKiel and Staff. This intensive practical and didactic experience will introduce the student to the detection and management of disorders of the excretory system, both in ambulant and hospitalized patients. 2 students.

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942 Urology Oncology: prereq. DII and 750; P 3 and 4: 4 wks. McKiel and Staff. The diagnosis and management of urologic cancer will be stressed in detail. The student will become a member of the surgical team and share the responsibility for the care of the tumor patients. Surgical pathology will be an integral part of the course and will include examination of all tissue removed at surgery. Attendance at the Tumor Clinic and Tumor Conference will be requisites for completion of this course. 2 students.

RESEARCH ELECTIVES AND SPECIAL TOPICS

--9 The academic climate of the Rush-Presbyterian-St. Luke's Medical Center provides an opportunity for the formulation of many questions suitable for investigation. The techniques of investigation, the concepts of experimental design, and the methodology used to carry out investigation are all variable and dependent upon the specific question asked. A rich variety of research electives is available to the students of Rush Medical College. These may be arranged on an individual basis by the student and his Principal Advisor through discussions with faculty members in Department and Sections.